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Application No. 10/802,906
Amendment dated September 30, 2010
Reply to Final Office Action of October 2, 2009

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-6 (cancelled).

7. (currently amended) An orthopedic implant for engaging at least one non-vertebral bone of the human body, said implant comprising:

a body having a first end, a second end, a length therebetween, and a width perpendicular to the length, said body including a bone-contacting surface along the length of said body, said bone-contacting surface configured to be placed against the at least one non-vertebral bone, ~~a substantial portion of said bone-contacting surface being one of: (i) convex in a direction parallel to the length of said body and (ii) flat in a direction parallel to the length and across the width of said body;~~

at least two bone screw receiving holes extending through said body from a screw receiving side to a screw exit side proximate said bone-contacting surface, each of said bone screw receiving holes having a central longitudinal axis extending therethrough from said screw receiving side to said screw exit side, and being adapted to receive a bone screw for engaging said implant to the at least one non-vertebral bone; and

a locking element for locking at least two bone screws inserted in said at least two bone screw receiving holes, respectively, said locking element being moveably attached to said implant prior to the insertion of the bone screws into said bone screw receiving holes, said locking element being on said screw receiving side of said body, said locking element being moveable rotatable in a plane substantially perpendicular to said central longitudinal axes of said bone screw receiving holes from an initial position that permits the insertion of at least one bone screw into one of said bone screw receiving holes to a final position

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that retains at least two bone screws to said implant, said locking element in said final position preventing withdrawal of the at least one bone screw from said one of said bone screw receiving holes.

8. (previously presented) The implant of claim 7, wherein said portion of said bone contacting surface extends along the entire length of said body.
9. (previously presented) The implant of claim 7, wherein said locking element is removably attached to said implant.
10. (previously presented) The implant of claim 7, wherein said locking element in said final position is adapted to bear against at least a portion of the bone screws.
11. (previously presented) The implant of claim 7, wherein said locking element in said final position is adapted to bear against at least a portion of the bone screws in at least three of said bone screw receiving holes.
12. (previously presented) The implant of claim 7, wherein said locking element in said final position is adapted to bear against at least a portion of the bone screws in at least four of said bone screw receiving holes.
13. (previously presented) The implant of claim 7, wherein said locking element in said final position covers at least a portion of said bone screw receiving holes.
14. (previously presented) The implant of claim 7, wherein said locking element in said final position is adapted to cover at least a portion of a bone screw when inserted in a bone screw receiving hole.
15. (previously presented) The implant of claim 7, wherein said locking element is adapted to be rotated from said initial position to said final position.
16. (previously presented) The implant of claim 15, wherein less than a full rotation of said locking element rotates said locking element from said initial position to said final position.
17. (previously presented) The implant of claim 7, wherein said locking element is a screw adapted to contact a bone screw in at least one of said bone screw receiving holes when said screw is screwed into said implant.

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18. (previously presented) The implant of claim 7, wherein said locking element slides from said initial position to said final position.
19. (previously presented) The implant of claim 7, wherein at least a portion of said locking element slides from said initial position to said final position.
20. (previously presented) The implant of claim 19, wherein said locking element slides over at least a portion of said bone screw receiving holes.
21. (previously presented) The implant of claim 19, wherein said locking element is adapted to slide over at least a portion of the bone screws when inserted in said bone screw receiving holes.
22. (previously presented) The implant of claim 7, wherein said locking element comprises at least one of a screw, a rivet, a cap, and a member having projecting elements.
23. (previously presented) The implant of claim 7, wherein said locking element includes a generally circular head having at least one cut-out segment.
24. (previously presented) The implant of claim 7, wherein said locking element comprises at least one of a camming surface, a ramped surface, and a threaded portion.
25. (previously presented) The implant of claim 7, further comprising a locking element receiving opening in said implant for receiving at least a portion of said locking element therein.
26. (previously presented) The implant of claim 25, wherein said locking element receiving opening is in communication with at least two of said bone screw receiving holes so as to permit at least a portion of said locking element to extend into said bone screw receiving holes and cover at least a portion of said bone screw receiving holes when said locking element is in said final position.
27. (previously presented) The implant of claim 7, wherein said locking element of said implant has a low profile so as to not protrude from said body when said locking element is in said final position.

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28. (previously presented) The implant of claim 7, wherein at least one of said bone screw receiving holes is configured to form an interference fit with a properly dimensioned bone screw to be received therein.
29. (previously presented) The implant of claim 7, wherein said locking element is a first locking element associated with a first pair of said bone screw receiving holes.
30. (previously presented) The implant of claim 29, further comprising a second locking element associated with a second pair of said bone screw receiving holes.
31. (previously presented) The implant of claim 30, wherein said bone screw receiving holes of at least one of said first and second pairs of bone screw receiving holes are generally arranged in side-by-side pairs.
32. (previously presented) The implant of claim 7, in combination with a fusion promoting substance.
33. (previously presented) The implant of claim 32, wherein said fusion promoting substance is at least in part other than bone.
34. (previously presented) The implant of claim 32, wherein said fusion promoting substance comprises bone morphogenetic protein.
35. (previously presented) The implant of claim 7, further comprising bone screws for engaging said implant to the at least one bone.
36. (previously presented) The implant of claim 35, wherein at least a portion of one of said implant, said locking element, and said bone screws is a bioresorbable material.
37. (previously presented) The implant of claim 7, further comprising at least one bone screw adapted to be retained to said implant by at least two locking elements.
38. (previously presented) The implant of claim 7, wherein said substantial portion of said bone-contacting surface that is convex in a direction parallel to the length is curved across the width of said body.

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39. (previously presented) The implant of claim 7, wherein said substantial portion of said bone-contacting surface that is convex in a direction parallel to the length is at least in part flat across the width of said body.
40. (previously presented) The implant of claim 7, wherein said bone-contacting surface is textured for engagement of said body with the at least one bone.
41. (previously presented) The implant of claim 7, wherein the length of said implant is greater than its width.
42. (currently amended) An orthopedic implant for engaging at least one non-vertebral bone of the human body, said implant comprising:
- a body having a first end, a second end, a length therebetween, and a width perpendicular to the length, said body including a bone-contacting surface along the length of said body, said bone-contacting surface configured to be placed against the at least one non-vertebral bone, ~~a substantial portion of said bone-contacting surface being one of: (i) convex in a direction parallel to the length of said body and (ii) flat in a direction parallel to the length and across the width of said body;~~
 - at least two bone screw receiving holes extending through said body from a screw receiving side to a screw exit side proximate said bone-contacting surface, each of said bone screw receiving holes having a central longitudinal axis extending therethrough from said screw receiving side to said screw exit side, and being adapted to receive a bone screw for engaging said implant to the at least one non-vertebral bone;
 - at least two bone screws, each of said at least two bone screws adapted to be received in one of said at least two bone screw receiving holes; and
 - a locking element for locking said at least two bone screws inserted in said at least two bone screw receiving holes, respectively, said locking element being moveably attached to said implant prior to the insertion of said at least two bone screws into said at least two bone screw receiving holes, said locking element being on said screw receiving side of said body, said locking element

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being ~~moveable~~ rotatable about an axis substantially parallel to said central longitudinal axes of said bone screw receiving holes from an initial position that permits the insertion of said at least two bone screws into said at least two bone screw receiving holes to a final position that retains said at least two bone screws to said implant, said locking element in said final position both covering at least a portion of one of said at least two bone screws, and preventing withdrawal of said one of said at least two bone screws from said one of said bone screw receiving holes.

Claim 43 (cancelled).

44. (previously presented) The implant of claim 42, wherein said locking element comprises at least one of a screw, a rivet, a cap, and a member having projecting elements.

45. (previously presented) The implant of claim 42, wherein said locking element includes a generally circular head having at least one cut-out segment.

46. (previously presented) The implant of claim 42, wherein the length of said implant is greater than its width.

47. (currently amended) An orthopedic implant for engaging at least one non-vertebral bone of the human body, said implant comprising:

a body having a first end, a second end, a length therebetween, and a width perpendicular to the length, said body including a bone-contacting surface along the length of said body and a second surface opposite said bone-contacting surface, said bone-contacting surface configured to be placed against the at least one non-vertebral bone, ~~a substantial portion of said bone-contacting surface being one of: (i) convex in a direction parallel to the length of said body and (ii) flat in a direction parallel to the length and across the width of said body;~~

at least two bone screw receiving holes extending through said body, each of said bone screw receiving holes being adapted to receive a bone screw for engaging said implant to the at least one non-vertebral bone; and

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a locking element for locking at least two bone screws inserted in said at least two bone screw receiving holes, respectively, said locking element being moveably attached to said implant and contacting said second surface prior to the insertion of the bone screws into said bone screw receiving holes, at least a portion of said locking element being adapted to cover at least a portion of at least one of said bone screw receiving holes, said locking element being on said second surface of said body, said locking element being moveable in a plane substantially parallel to said second surface of said body proximate said at least one of said bone screw receiving holes from an initial position that permits the insertion of at least one bone screw into said bone screw receiving holes to a final position that retains at least two bone screws to said implant, said locking element in said final position preventing withdrawal of the at least one bone screw from said one of said bone screw receiving holes.

48. (previously presented) The implant of claim 47, wherein said locking element in said final position is adapted to cover at least a portion of a bone screw when inserted in a bone screw receiving hole.
49. (previously presented) The implant of claim 47, wherein said locking element comprises at least one of a screw, a rivet, a cap, and a member having projecting elements.
50. (previously presented) The implant of claim 47, wherein said locking element includes a generally circular head having at least one cut-out segment.
51. (previously presented) The implant of claim 47, wherein the length of said implant is greater than its width.